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October 16, 1995

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VIA MESSENGER

William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

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OCT 16 1995

FEDERAL COMMUNICATIONS COMMISSION
DEPT. OF COMMERCE

Re: *ET Docket No. 93-7*
Notice of Ex Parte Communication

Dear Mr. Caton:

On Friday, October 13, Echelon Corporation met with William H. Johnson, Elizabeth W. Beaty and Mike Perko of the Cable Services Bureau to discuss the decoder interface proposals in ET Docket No. 93-7. Echelon was represented by Oliver R. Stanfield, Vice President and CFO, and the undersigned counsel. The views expressed on behalf of Echelon are reflected in the attached materials, as well as Echelon's prior filings in this proceeding.

Pursuant to Section 1.1206 of the Commission's Rules, two copies this letter are enclosed for filing. Please contact me should you have any questions in regard to this matter.

Sincerely,



Glenn B. Manishin

GBM:hs
cc (w/encl): Bill Johnson
Libby Beaty
Mike Perko

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CATV Decoder/AV Equipment Compatibility

Requirements of the law

- Allow cable subscribers to enjoy the programming available on their cable systems
- Permit cable operators to use encoding to prevent theft of cable services
- Resolve incompatibilities between AV equipment (cable-ready TVs and VCRs) and system decoders



CATV Decoder/AV Equipment Compatibility

Restated requirements

- Allow
 - Simultaneous viewing and VCR recording
 - Recording of multiple programs on different channels
 - Picture-in-picture operation
- With any clear or authorized scrambled channel



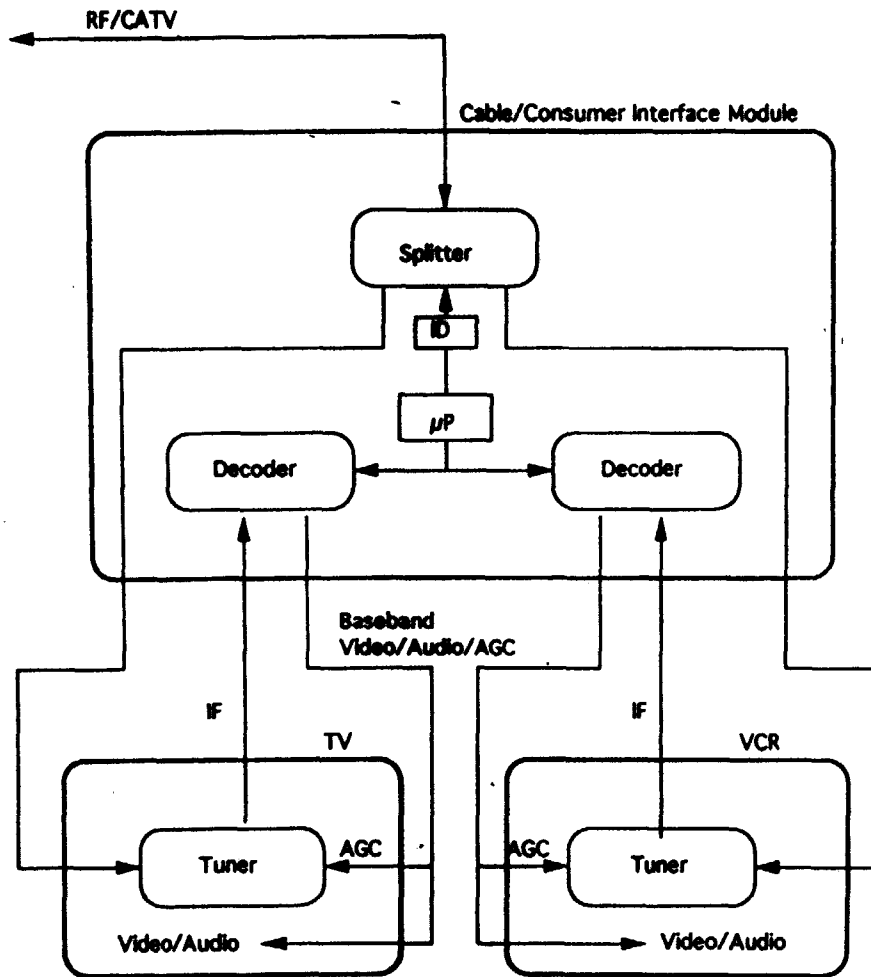
Five Potential Solutions

- Dual Component Decoder
 - Dual Tuner/Decoder
 - Dual Tuner/Decoder with Command Line
 - Dual Tuner/Decoder with IR Communication
 - Dual Tuner/Decoder with IR Communication
(Baseband Video/Audio)
-
- Each solution meets the requirements in a simple and straightforward way
 - **No control bus required**
 - **Some are compatible with the existing base of AV equipment**



Dual Component Decoder

Set-top box contains two decoders; TV/VCR provide tuners



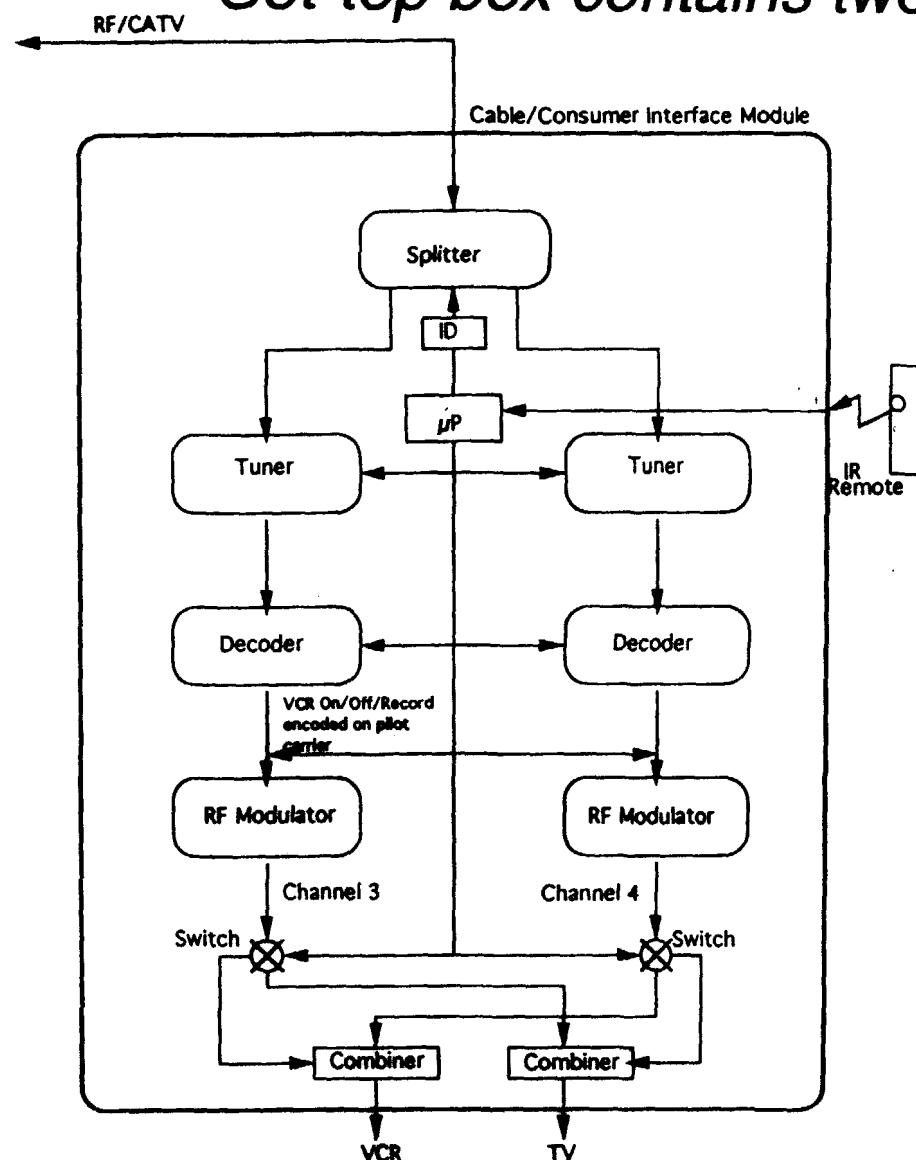
Alternative 1: Dual Component Decoder Approach

- Allows simultaneous viewing and VCR recording of all clear and scrambled channels
- Enables full picture-in-picture capability
- Permits full use of all built-in TV options
- Permits full use of all built-in VCR programming options
 - Including multi-channel VCR programming



Dual Tuner/Decoder

Set-top box contains two decoders and two tuners

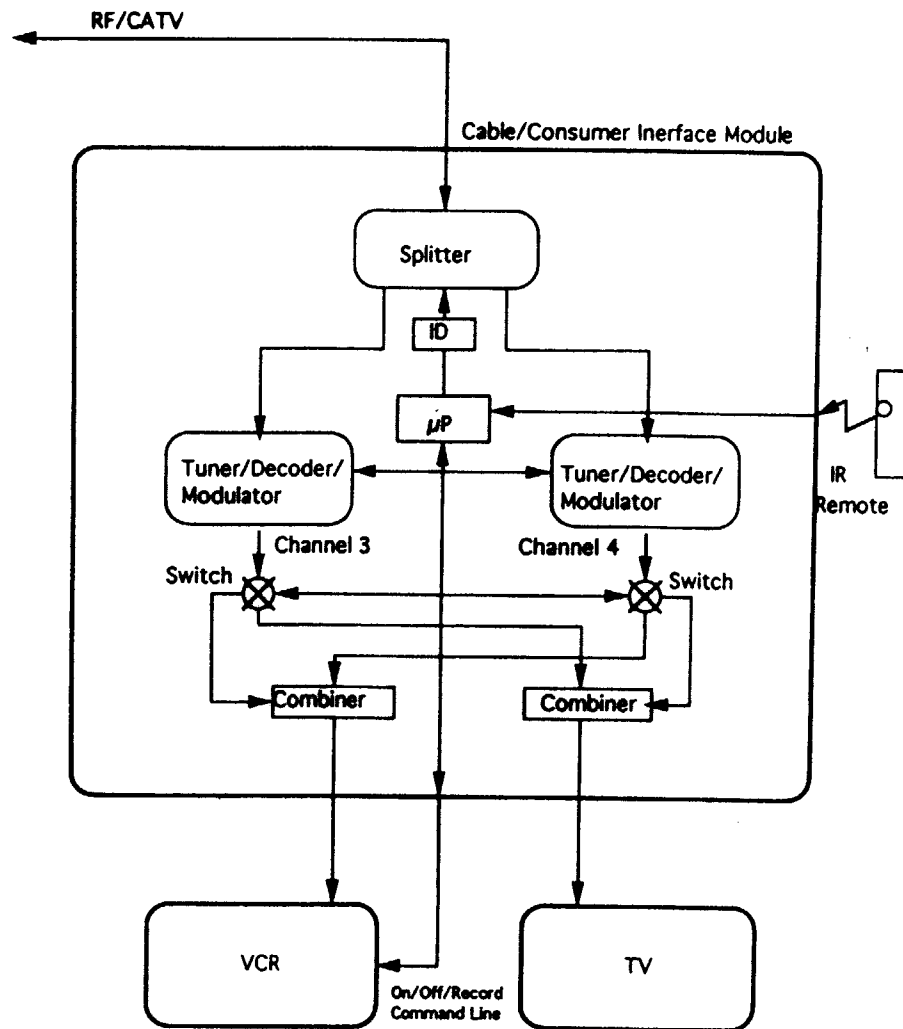


- Allows simultaneous viewing and VCR recording of all clear and scrambled channels
- Permits full use of all built-in TV options
- Enables full picture-in-picture capability
- VCR programming/recording control done in set-top box
 - Sends simple ON/OFF/RECORD commands using the RF guard band
 - Supports multi-channel VCR programming

Alternative 2: Dual Tuner/Decoder Approach

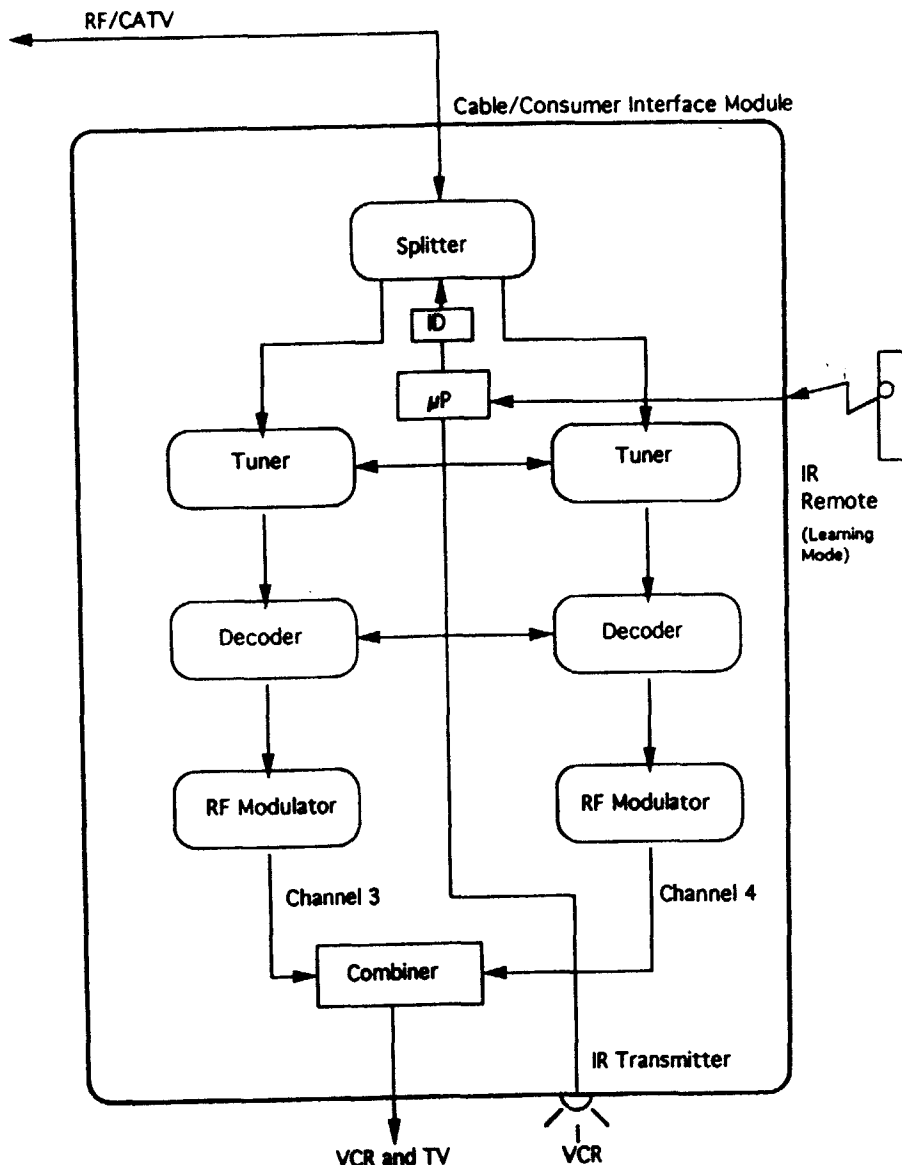
Dual Tuner/Decoder with Command Line

Introduce a very simple control line



- Allows simultaneous viewing and VCR recording of all channels
- Permits full use of all built-in TV options
- Enables full picture-in-picture capability
- VCR programming/recording control done in set-top box
 - Requires new connection between set-top box and VCR
 - Very simple — UART or 2 parallel lines
 - No protocol required — could use remodulated IR
 - Minimal processing required
- Supports multi-channel VCR programming

Dual Tuner/Decoder with IR Communication

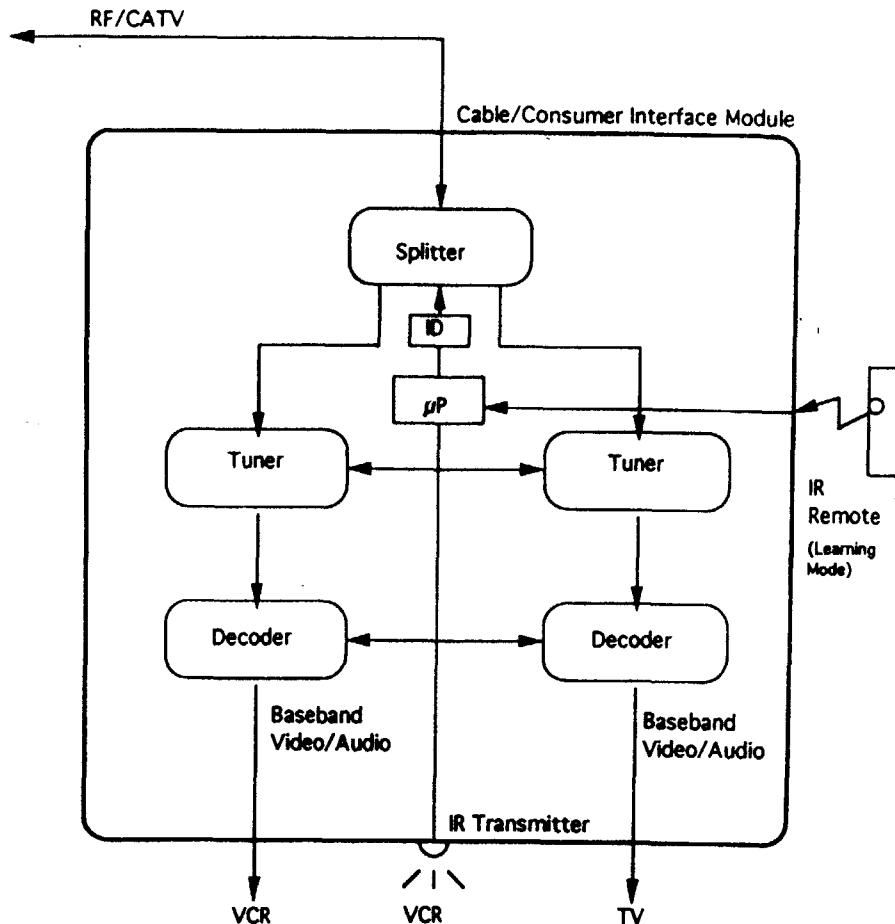


Alternative 4: Dual Tuner/Decoder with IR Communication Approach

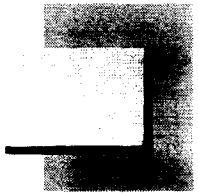
- Allows simultaneous viewing and VCR recording of all channels
- Permits full use of all built-in TV options
- Enables full picture-in-picture capability
- VCR programming/recording control done in set-top box
 - Communication between devices using wide-view IR
 - Supports multi-channel VCR programming
- **Works with all existing TVs and VCRs**
 - No new cabling
 - No equipment redesign

Dual Tuner/Decoder with IR Communication (Baseband Video/Audio)

Provides higher quality video and audio

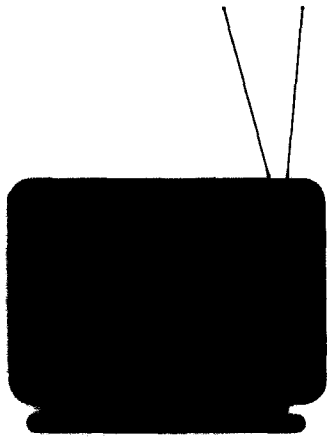


- Allows simultaneous viewing and VCR recording of all channels
- Permits full use of all built-in TV options
- Enables full picture-in-picture capability
- VCR programming/recording control done in set-top box
 - Communication between devices using wide-view IR
 - Supports multi-channel VCR programming
- Works with all existing TVs and VCRs with baseband inputs
 - No new cabling
 - No equipment redesign

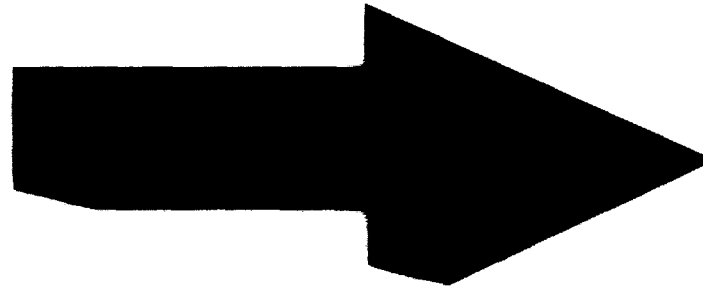


The Solution

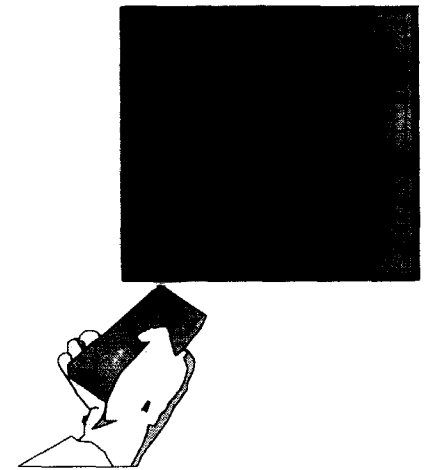
Exploit the natural evolution of AV control



All control from
front panel



All control from front
panel plus some replicated
on IR remote



All control from IR remote
plus some replicated on
front panel

- Well known technique for controlling any device
- IR command processing already in the equipment